

Low Capacitance ESD Protection Diode

1 Features

- IEC 61000-4-2 Level 4 ESD Protection
 - ± 15 -kV Contact Discharge
 - ± 20 -kV Air Gap Discharge
- IEC 61000-4-4 EFT Protection
 - 40 A (5/50 ns)
- Peak Reverse Working Voltage: 5.0V (Maximum)
- IO Capacitance: 2.7pF (Typical)
- DC Breakdown Voltage: 5.6V (Minimum)
- Low Leakage Current: 1 μ A (Maximum)
- Industrial Temperature Range: -55°C to $+150^{\circ}\text{C}$
- Package DFN1006-2L

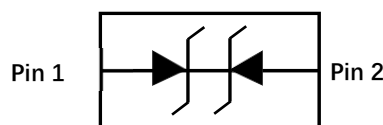
2 Applications

- End Equipment
 - Personal digital assistants (PDA's)
 - Notebooks, Desktops, and Servers
 - Cell phone Handsets and Accessories
 - Portable electronics
 - Communication systems
 - Peripherals

3 Description

The SLEN25WCB is a bi-directional ESD protection diode designed to protect sensitive electronic components which are connected to low speed data lines and control lines from over-stress caused by ESD (Electrostatic Discharge), EFT (Electrical Fast Transients) and Lightning. The SLEN25WCB may be used to provide ESD protection up to ± 15 kV contact and ± 20 kV air discharge according to IEC61000-4-2, and withstand peak pulse current up to 2A (8/20 μ s) according to IEC61000-4-5. The SLEN25WCB is available in DFN0603-2L package. Standard products are Pb-free and Halogen-free.

4 Pin Configuration and Bottom View



DFN1006-2L

5 Device Information

PART NUMBER	PACKAGE	BODY SIZE (NOM)
SLEN25WCB	DFN1006-2L	1.00 mm x 0.60mm

6 Absolute maximum Ratings @25°C

RATING	SYMBOL	VALUE	UNITS
Peak Pulse Power (tp=8/20 μ s)	P _{PP}	40	W
Peak Pulse Current (tp=8/20 μ s)	I _{PP}	2	A
Operating Temperature	T _J	-55 to 150	$^{\circ}\text{C}$
Storage Temperature	T _{STG}	-55 to 150	$^{\circ}\text{C}$
ESD Protection-Contact Discharge	V _{ESD}	± 15	kV
ESD Protection-Air Discharge	V _{ESD}	± 20	kV

7 Electrical characteristics (@25°C unless otherwise specified)

PARAMETER	SYMBOL	CONDITIONS	MIN.	TYP.	MAX.	UNITS
Peak Reverse Working Voltage	V_{RWM}				5.0	V
Breakdown Voltage	V_{BR}	$I_t = 1\text{mA}$	5.6			V
Reverse Leakage Current	I_R	$V_{RWM} = 5\text{V}, T=25^\circ\text{C}$			1	μA
Clamping Voltage	V_C	$I_{PP} = 2\text{A}, t_p = 8/20\mu\text{s}$		11	13	V
Junction Capacitance	C_j	$V_R=0\text{V}, f = 1\text{MHz}$		2.7		pF

8 Typical Characteristics

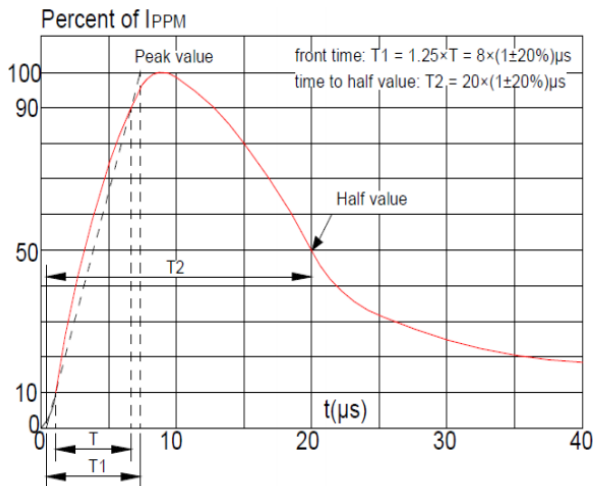


Fig 1. Pulse Waveform (8/20us)

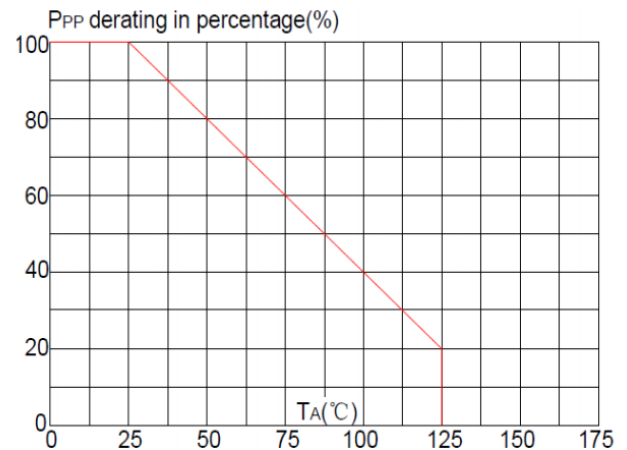


Fig 2. Pulse Derating Curve

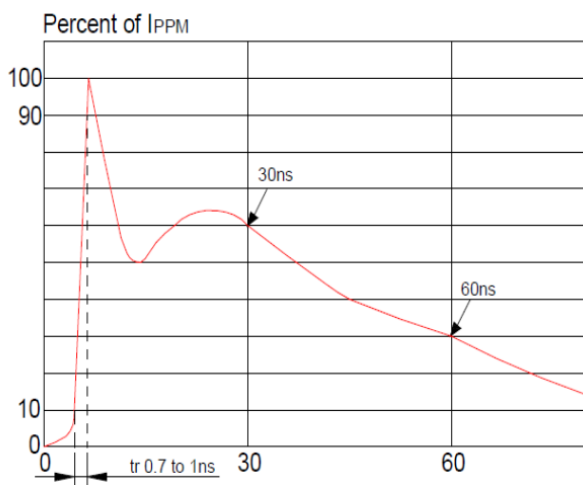
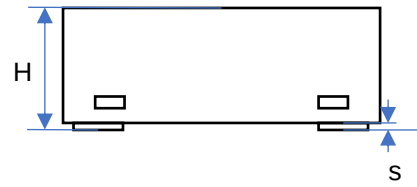
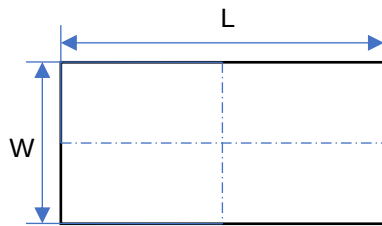


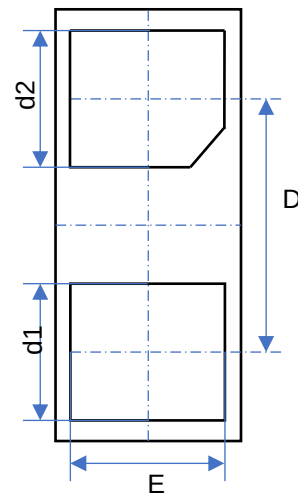
Fig 3. ESD Clamping(8kV Contact Discharge)

9 Product dimension

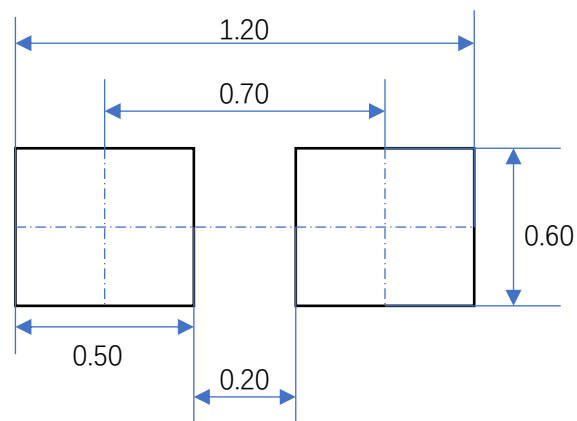
DFN1006-2L



DIM	UNITS (mm)		
	MIN.	TYP.	MAX.
L	0.95	1.00	1.08
W	0.55	0.60	0.68
H	0.39	0.44	0.50
s	0.00	0.02	0.05
D	0.60	0.65	0.70
E	0.40	0.50	0.60
d1	0.20	0.25	0.30
d2	0.20	0.25	0.30



10 PCB Layout Footprints



11 Ordering Information

Part Number	Packaging	Reel Size
SLEN25WCB	10000/Tape & Reel	7 inch